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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,537	07/24/2002	Ralf Nagel	46955.8	3262

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EXAMINER

THOMPSON, JEWEL VERGIE

ART UNIT PAPER NUMBER

2855

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/089,537

Applicant(s)

NAGEL ET AL.

Examiner

Jewel V Thompson

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 8 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Objections*

1. Claims 8 and 20 are objected to because of the following informalities: Claims 8 and 20 were present in the original claims; they have been omitted from the amended claims, however claims 8 and 20 were not deleted. Claims 8 and 20 were not acted on in the present Office Action. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 7, 9, 12-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bussian (5,698,794) in view of Myers (5,561,250).

**Regarding claims 1, 2, 6, 7, 15, 17** Myers teaches a method and device for registering the flow-through quantity of bulk material flowing freely through a transport line (14), which method provides for both speed measurement and mass measurement, wherein mass measurement takes place gravimetrically using a weighing chute (32), and in that the flow-through quantity is determined without calibration, directly from the

speed and the mass of the bulk material (60) flowing on the weighing chute (abstract); speed sensor (39); the speed is measured by a correlation analysis of charge signals generated by the electrode (col. 13, lines 30-55) Bussian fails to teach at least one pair of electrodes. Myers teaches electrodes (120 and 130) which are mounted on impact plate (118). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the both electrodes of Myers in the impact flow meter of Bussian for the purpose of measuring the mass flow rate, since the capacitance measured between electrodes increases as both the amount of grain near the electrodes and the moisture content of the grain increases, the method of computing moisture content must include means to compensate for the amount of grain near the electrodes (see Myers, col. 15, lines 23-29).

**Regarding claim 2**, Bussian teaches mass measurement takes place with a suspended or supported weighing chute (32).

**Regarding claim 3**, Bussian fails to teach several instances of speed measurement takes place and the speed of the bulk material in the weighing chute derived from several instances of speed measurement (39, 41,43,45)

**Regarding claim 9**, Bussian teaches the weighing chute is arranged at the end of a transport line or in a gap between two sections of transport line (fig. 1).

**Regarding claim 12**, Bussian teaches the least one pair of electrostatic induction electrodes comprises electrode pieces, which are arranged in the bottom region of the weighing chute (fig. 1).

**Regarding claim 13** Bussian teaches at least one pair of electrostatic induction electrodes is attached to the transport line (fig. 1)

**Regarding claim 14**, Bussian fails to teach the mass measuring device comprises a weighing cell and a wire strain gauge by means of a beam is firmly attached at one end to the weighing chute, and at the other end to a housing. Myers teaches a wire strain gauge (18A-18D which are bonded to the surface of the weighing cell (12) which is attached to the housing fig. 1). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have placed the wire strain gauge of Myers in the flow meter of Bussian for the purpose of measuring the force, wherein the effect of the moment is not measured (see Myers, col. 8, lines 60-63)

**Regarding claim 16**, Bussian teaches at least one pair of electrostatic induction electrodes is attached in axial direction in the middle of the weighing chute (fig. 1)

***Claim Rejections - 35 USC § 103***

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bussian in view of Myers as applied to claim 1 above, and further in view of Reuter (5,065,632).

**Regarding claim 4**, Bussian in view of Myers fails to teach the bulk material comprises particle-shaped solid matter with a typical particle size ranging from 1 gm to 1000 mm. Reuter teaches in col. 5, lines 22-29 that the ranges of materials having

particles sizes from fine powders to quarried materials. It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have known that a wide range of materials which includes  $1\mu$  to 1000mm can be used, as taught by Reuter in the impact flow meter of Bussian for the purpose of utilizing the flow meter for a wide range size of materials.

***Claim Rejections - 35 USC § 103***

4. Claim 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bussian in view of Myers as applied to claim 1 above, and further in view of Satake et al (5,798,466)

**Regarding claims 5**, Bussian in view of Myers fails to teach the flow-through quantity is calculated from the measured mass and the measured speed according  $dm/dt = v \cdot M$ , wherein (dm/dt) the flow-through quantity, (M) the measured mass and the measured speed. Satake et al teaches a microprocessor, which is an arithmetic and control unit (15). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have used the arithmetic and control unit of Satake et al in the flow meter of Myers for the purpose of calculating the flow-through quantity, since it is known that calculations are processed in the arithmetic unit and can be programmed for whatever value is needed.

**Regarding claim 19**, Bussian in view Myers fails to teach the weighing chute is of segment-like design. Satake et al teaches a chute which is in segments (fig. 1 and

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col. 9, lines 36-43). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have used the segment-like design of Satake et al in the flow meter of Bussian for the purpose of serving as a funnel (see Satake et al col. 9, lines 42-43)

***Claim Rejections - 35 USC § 103***

5. Claim 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bussian in view of Myers as applied to claim 7 above, and further in view of Bottinger et al (5,560,246)

**Regarding claims 10, 18** Bussian in view of Myers fails to teach at least one pair of electrostatic induction electrodes, attached to the outside of the wall of the weighing chute or accommodated in the exterior wall of the weighing chute. Bottinger et al teaches a pair of electrodes (MC1 and VC1) which are attached on the outside wall of the chute (fig. 1). ). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have placed the electrodes on the outside of the chute as in Bottinger et al in the flow meter of Bussian for the purpose of preventing corrosion or any defect caused by the material which would prevent an accurate measurement.

***Claim Rejections - 35 USC § 103***

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bussian in view of Myers as applied to claim 7 above, and further in view of Klausner et al (6,122,956)

**Regarding claim 11**, Bussian in view of Myers fail to teach at least one pair electrostatic induction electrodes comprises two annular electrodes which radially encompass the weighing chute. Klausner et al teaches a plurality of conductor sensing electrodes (32), which are mounted in equally spaced relation to one another in an annular array around the central portion of pie (26). It would have been obvious to one having ordinary skill in the art at the time that the invention was made to have used the annular ring of electrodes of Klausner et al in the flow meter of Bussian for the purpose of ensuring accuracy in the measurement of the flow (see Klausner et al, col. 5, lines 8-16)

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

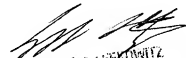
5,837,906 Palmer teaches an apparatus for measuring the real-time volumetric flow rate in a field harvester



8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V Thompson whose telephone number is 703-308-6726. The examiner can normally be reached on 7-4:30, off alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 703-305-4816. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1134.

  
EDWARD LEFKOWITZ  
SUPERVISOR  
TECHNICAL UNIT 2800